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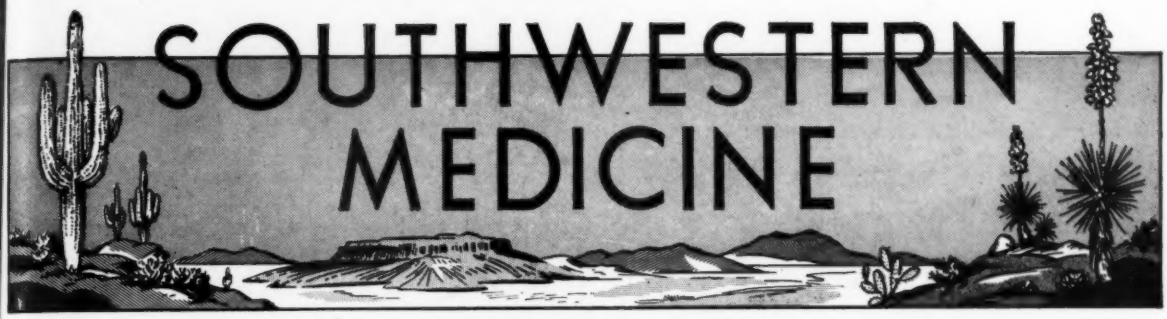

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DR. W. L. BROWN

One of the grand men of medicine in the southwest passed on recently. Dr. W. L. Brown, known and loved by thousands throughout this part of the world, died at his home in El Paso on December 28, 1942, age 69.

Dr. Brown came to El Paso in 1903. Possessed of a splendid medical education for those days and times he very quickly won recognition as an outstanding diagnostician and surgeon. He set standards in personal and professional conduct of high degree, thereby inspiring hundreds of younger medical men, who came after him, to follow in his steps. He was one of the few men of whom it could be truly said that no harsh words or fault finding were ever directed his way.

Years ago Dr Brown, with others, felt that an effort should be made to develop El Paso into a medical center so that only the best qualified young physicians would be attracted to this area. He helped found the Southwestern Medical Association, and somewhat later assisted in the establishment of this journal, *Southwestern Medicine.* For over a quarter century these two institutions have served the physicians of the entire southwest. Several years ago Dr. Brown was made honorary life president of the association. It was upon the occasion of the silver anniversary of the society. To commemorate the occasion Dr. Brown was presented with a gold membership card during the ceremonies. The association honored itself in this gesture. Dr. Brown was a member of the American Medical Association, the American College of Surgeons, the Texas State Medical Association and the El Paso County Medical Society in addition to his own beloved Southwestern Medical Association. He was active until the last days in all these societies.

This good man was never too busy to listen to the problems of the younger doctor and to give him wise counsel based upon his years of experience as a medical man of the highest calibre. Respected and loved by all who knew him, he was especially honored by his professional brothers because of his stature as an ideal physician. It was a high privilege to know this doctor and gentleman. We shall miss him. But, as the years pass we are thankful that we can draw upon the rich store of decent things he has taught us, both by word and example. God rest this physician friend of ours. He made his corner of the world a brighter and better place as he passed this way. He left no tears in his wake, only the bright eyes of faith and hope and healing.

INK SLINGERS

It's easy to tell half-stories. That entertaining practice is all too common among members of the fourth-estate. The latest gem appearing in the free and holy press of America appeared recently in the Fort Worth Scripps-Howard daily. A writer therein, commenting on the present difficulties in the distribution of doctors says:

> "To some people it has seemed that compulsory mobilization in this manner is the only possible solution to the shortage of doctors now developing in some war production areas. But as soon as any government planner even so much as thinks about this, a big yell goes up from the spokesmen for the American Medical Association, which fears this would be an entering wedge for the socialization of medicine, the big bogeyman that for 20 years or more has been bothering the medical profession.

> Private doctors hate and fear socialized medicine. What they are afraid of is that U. S. medical practice will go the way it has in New Zealand and a few other countries, where doctors become servants of the government, work for a government salary instead of for fees paid by their patients, and where the patient pays no doctor or hospital bills but instead pays health taxes to the government which uses the money to provide free health service."

Remember the yells about free enterprise that beat against the fair skies of America when someone in Washington proposed to start a government newspaper? Oh, how the wretched reporters fairly screamed and heaved the ink in great gobs at the behest of their bosses who owned the sheets when it looked like the government might go into the publishing business. Read the second sentence in the above quotation substituting the words "holy and free American press" for "American Medical Association" and "socialization of journalism" for "socialization of medicine" and "journalistic" for "medical." Doesn't this have a familiar ring?

Sure, American doctors are afraid of U. S. medical practice going the way it has in New Zealand and other countries. They know the sorry mess that politicians have made of medicine in New Zealand. U. S. doctors are hardly devilish and mean enough to concur in such a fraud being saddled upon the American people. To read the second paragraph in the above quotation, the uninformed reader could easily get the notion that a little corner of heaven had been transplanted into New Zealand. That is just not so. Of late not only New Zealand's doctors but the general public who had been told they were getting something for nothing with the socialization of New Zealand medicine are awakening. So that now endeavor is being made to throw the camel out of the tent. Despite booming kicks on the animal's rump, the beast, as New Zealanders are finding out, seems unwilling to retreat from his warm nest. So it is with all opening wedges established by bureaucrats and politicians. Once they get a nose under the tent flap, like the camel, they stink the whole place up and are hard as hell to get shed of, when the rightful occupants of the tent get fed up with both the odor and the blasted racket.

Certain it is that some changes will come about in medical practice in the United States. Changes have come about in scientific American medicine, as any informed doctor or layman can testify. Half stories, such as the exhibit in the above quotation, always create antagonism, animosity and heat. Never yet have they actually shed light to enable the people to find their own way. The American public would be better served by its newspapers if their editors would be more careful in the presentation of truth and light, and not let sneak into print such exhibitions of half light and lazy space filling as are quoted above.

Emergency Treatment of Abdominal Traumas

E. PAYNE PALMER, M. D.
Phoenix, Arizona

TRAUMAS of the abdomen constitute an important group of injuries not only producing disability but also ending far too often in sudden death. Much of this is due either to entire lack or to slow application of proper emergency treatment. Far too often a patient arrives at the hospital with an abdominal trauma, having received no emergency care at the site of the accident. Irreparable damage is likewise done through improper handling by well-meaning but inexperienced persons. Many times the injured person is placed in the first available automobile; he is rushed over roads and street at a high rate of speed, thereby damaging the traumatized abdomen still more, increasing the shock with every jolt and turn.

The medical profession must realize the importance of prompt and proper first-aid treatment for patients with abdominal traumas. Naturally physicians must be thoroughly trained in the fundamentals of first-aid and in appreciating the importance of first-aid for this class of patients. Every member of this organization needs to go forth and preach the gospel of first-aid to physicians so they can direct the

Ed Note: This is the first part of a series by this author. Part II will appear in a subsequent issue.

laity and can actively promote better emergency care to cases of abdominal traumas. Such first-aid service is possible through the training of those who are brought in contact with accident cases, i. e., ambulance drivers, city police and firemen, accident squads, state highway patrolmen, construction, factory, and mine foremen. This is especially important in modern warfare as abdominal trauma is exceedingly common in military activity.

It is also necessary for interns to know the principles of first-aid for abdominal traumas while serving on the ambulance or in the emergency room at the hospital. The general practitioner likewise renders emergency treatment to cases of abdominal traumas. He should be prepared to handle those he is capable of treating; but he should not fail to recognize early those he is not equipped to treat. The physician who accepts a case of abdominal trauma for treatment beyond the emergency is responsible for the end results, not the surgeon who sees the case when failure is imminent. Likewise a surgeon who assumes the responsibility of treating these cases must be willing to accept many patients for exploration. He must be willing to give them much of his time, making painstaking examinations, performing extensive technical operations, giving that close postoperative attention which in itself will do much in reducing the mortality rate.

"Treat them where they lie" is truly the first principle in the emergency treatment of abdominal traumas as well as of fractures. Not only should treatment begin immediately at the scene of the accident, but the type of initial treament is also of paramount importance, as the problem of the definite treatment of an abdominal trauma hinges largely upon the time of its application.

FIRST AID

As already noted, prompt and proper first-aid treatment is an important factor in rapid recovery or in avoiding permanent disability. It begins with an examination of the patient's general condition before transportating him to the hospital. As a rule it is not necessary to remove any clothing at the site of the accident to obtain satisfactory concept of the injuries and of their constitutional effect. If the patient is conscious, he can give the location of the pain. Examination should reveal the presence of a trauma to the abdominal wall, points of bleeding, evisceration, etc.

Shock to some degree exists with all cases of abdominal traumas. The emergency treatment should first combat shock, check bleeding, and relieve pain. Without changing the position of the patient, make a preliminary examination to determine the degree of primary shock, the extent of hemorrhage and the amount of pain suffered. Cover the patient with a blanket to conserve the body heat. If necessary, administer morphine hypodermically. Then make a careful examination to determine the extent of the injuries. As has been said, this usually can be done without removing the clothing; but if removal is necessary for diagnosis or dressing wounds, always cut the clothing away.

If there is an open wound, large bleeding vessels should be grasped with artery forceps and left in position; less severe bleeding can be checked by gauze compress. Visible foreign bodies should be removed from the wound; eviscerated organs and wounds should be covered with sterile dressings and held in place with adhesive plaster or an abdominal binder. If shock is profound, no movement whatsoever should be allowed until improvement has occurred. Many lives have been sacrificed through subjecting patients in shock from abdominal trauma to the added shock of transportation. Established shock is easily aggravated by any rough handling of the patient; even a rapid change of position may induce a profound collapse. The patient with an abdominal trauma and in shock should, therefore, be transported with care, certainly not at a high rate of speed as is so frequently done; nor should he be transported any great distance. Take him to a house near the site of the accident, put in a warm bed, cover him with blankets, and keep him there until he recovers from shock. During this time he must be disturbed as little as possible. Warmth and rest are the most important consideraions at this time, though excessive use of external heat is detrimental.

Apparently hopeless cases, seen at the site of the injury, should nevertheless be given appropriate emergency treatment and be carefully transported to the hospital. If the patient succeeds in reaching he hospital alive, the immediate intravenous administration of acacia, plasma or serum and normal saline solution may

be a lifesaver. Any seriously injured case arriving at the hospital should certainly be given a chance for recovery.

The other great danger from an acute abdominal trauma, in addition to shock, is hemorrahage. Neither of these conditions can be temporized with; both must be treated promptly and vigorously to save life. It is frequently difficult to differentiate between them; both may be present at the same time. Hemorrhage may supervene when shock subsides and the blood pressure increases. Consequently, a patient in traumatic shock needs to be studied carefully. Traumatic shock is, of course, the state of depression of bodily function which occurs in persons who have been wounded. Surgeons who treat these cases need a thorough concept of all phases of traumatic shock.

SHOCK

Patients arriving at the hospital in shock must be put in a warm bed and given morphine intravenously. The stomach should then be aspirated and the tube left in position. Normal saline solution can next be given by hypodermoclysis and a snug Scultetus bandage applied to the abdomen. Heat should also be applied to the extremities and oxygen administered. The patient's blood pressure and pulse rate must be taken and recorded every fifteen minutes during the period of shock. Recovery from primary shock usually occurs in frim three to four hours. The blood pressure and the pulse rate are the indicators. When the blood pressure rises to 120 m.m. systolic, within a three or four hour period, the patient is probably a good risk for operation; failure to obtain a good rise in the blood pressure denotes a very grave condition. When blood pressure remains below 90 m.m. systolic, there is little chance of the patient surviving an operation; if he does, he will probably succumb very soon thereafter.

The pulse is a good prognostic sign to follow. With recovery from shock there should be a marked reduction in the pulse rate and an increase in its volume. A continued pulse rate of 120 or more per minute, after recovery from shock, indicates a very grave condition; an increase in the pulse rate with a decrease in volume indicates a hemorrhage.

HEMORRHAGE

Hemorrhage may not be apparent immediately after the injury, and it may be difficult to determine its presence early. In the early stage of hemorrhage the blood pressure, red cell count, and hemoglobin may not vary from the normal, but later there will be an increase in the pulse rate, a drop in blood pressure and in hemoglobin and red cell count. Patients with severe hemorrhage are pale and restless; they also experience air hunger and thirst. When the blood pressure continues to drop and the pulse rate increases with a decrease in its volume, accompanied by a reduction of hemoglobin and red blood cells, one can be certain that the hemorrhage continues. Progressive hemorrhage, even if shock is present, must be controlled; therefore, relief of shock and the restoration of blood pressure above the shock levels should be accomplished as quickly as possible. Life can be conserved if a fair blood balance can be maintained. Obviously serious, sudden blood losses must be replenished.

Acute alcoholism is not uncommon in abdominal traumatic patients; therefore, intoxicated persons involved in an accident should be carefully examined and kept in the hospital under close observation until all danger is past.

HOSPITAL CARE

Patients arriving at the hospital in a serious condition, with gross evidence of an abdominal trauma and with only a moderate degree of shock, should be taken to the operating room at once where every facility is available for a thorough examination and prompt treatment. Time is an important factor. It has been proved conclusively that the best time to operate is within six hours after the injury. Admitting the imporance of an early operation, that it will give a lower mortality, yet patients should not be subjected to an immediate operation until the surgeon is certain the indications are definite and the patient is in the best possible condition for operation.

ABDOMINAL TRAUMAS

Abdominal traumas may be parietal, visceral, or parietovisceral; it may be closed or open. Any abdominal trauma calls for immediate close attention; therefore, the patient should be carefully examined, as I have said, to determine the diagnosis. In many cases a history, carefully taken and recorded, and a physical examination are sufficient for a correct diagnosis. Others require laboratory examinations before a diagnosis can be determined.

PARIETAL TRAUMAS

The trauma may be limited to the abdominal wall, but one must be certain of this fact. With a closed trauma of the parietes the pain and tenderness are usually localized to the site of the trauma. Among the closed traumas are ruptures of the rectus muscle and deep epigastric vessels. The commonest site is below the umbilicus. Profuse hemorrhage follows rupture of the deep epigastric vessels; it is frequently difficult to differentiate between hematoma of the abdominal wall, intraperitoneal, and retroperitoneal hematoma. However, with the first, the swelling in the abdominal wall protrudes prominently if the patient blows with the nose held tightly, whereas, an intraperitoneal or retroperitoneal mass will disappear. If the intraparietal hematoma is large and increasing in size, it must be evacuated; bleeding vessels must be clamped and ligated; and rupture of the muscle should be carefully sutured. There may be a great deal of damage to the parietes with the loss of much tissue. One should consider every incised, lacerated, or punctured abdominal wound as potentially penetrating, until it is proved otherwise. Most open wounds of the abdominal parietes, regardless of how dirty they are, if seen early, i. e., within four to six hours, can be cleansed and prepared so that primary union occurs. Nevertheless, despite meticulous cleansing there are some wounds so heavily contaminated that infection occurs. Furthermore, there are some virulent types of contamination which the body defenses seem impotent to combat. The abdominal wall should be shaved, then scrubbed with green soap and warm water until it is quite clean. The skin surface thereafter should be rinsed thoroughly with sterile water, dried, and washed with ether. All foreign material visible in the wound must be removed; tissues which are obviously devitalized must be excised. Irrigate the wound thoroughly with normal saline solution, forcing this into all crevices of the wound. A chemical bacteriocide can be applied to the normal skin of the abdominal wall. One should cautiously explore the depth of the wound to make certain that it is limited to the parietes or that it enters the abdominal cavity. There must, of course, be complete control of hemorrhage; this should be followed by the placing of from five to ten gm. of sterile crystalline sulfanilamide in the depth of the wound. Wound closure with the least number of annealed steel wire, cotton or silk sutures, without tension, will usually result in primary wound healing. Wounds too extensive for satisfactory approximation of the edges, can have a plastic repair if the patient's condition permits; otherwise, pack with vaseline gauze and protect with dressings or pack open and irrigate with Dakin's solution every two hours. Plastic repair can be done when the patient's condition warrants it. Naturally, one would give antitetanic serum after testing for sensitivity. The patient should be closely observed and given such treatment as indicated.

PENETRATING ABDOMINAL WOUNDS

Notwithstanding the improved preoperative preparation and the postoperative treatment of today, perforating abdominal wounds have approximately the same mortality as twenty-five years ago. The mortality rate increases in proportion to the age of the patient and the size of the missile. Incised, stab, or gunshot wounds may enter the peritoneal cavity, yet cause no damage to the viscera; however, they may, and probably will, introduce contamination resulting in a fatal peritonitis. The majority of persons with penetrating abdominal wounds die within twenty-four hours from hemorrhage and shock. Those dying after this time succumb to peritonitis. Many incised and stab wounds appear to be limited to the parietes; yet as has been suggested, these must be considered potentially penetrating until proven otherwise. There are no reliable symptoms sufficiently constant to indicate the absence or presence of visceral traumas. With the presence of general muscle rigidity and tenderness, pain and pallor, one can be fairly certain of an intra-abdominal trauma, indication for surgical intervention is always present. Patients arriving at the hospital in a serious state of shock should be treated for this condition before an examination is made. If after three or four hours the pulse rate continues rapid with a falling blood pressure and a reduction in the hemoglobin and red cells, or if air hunger develops, one can be certain that hemorrhage exists. Therefore, an early operation is imperative, provided there is any reasonable prospect of the patient surviving the operation. Patients apparently in suitable condition should be sent to the operating room for examination. As you know, many

patients require very close study to determine the advisability of operation. The surgeon naturally will use every means at his command to aid him in reaching a conclusion. The best surical authority available should be called into consultation. Roentgenograms should show the presence of free air or fluid in the abdominal cavity. The peritoneoscope will also be a valuable aid in determining if there has been a penetration with blood or intestinal contents extravasated into the peritoneal cavity. With every facility available to meet emergencies, enlarge and explore the wound to its depths. If the incised or puncture wound has entered the abdominal cavity, an exploratory laparotomy must be performed as every perforating wound of the abdomen means a probable perforating wound of the gastro-intestinal tract or some other viscus. Eviscerated omentum should be resected before the abdomen is opened or explored. Eviscerated intestines should be cleansed by irrigating with warm normal saline solution and flushed with ether. Perforations should be closed before the intestines are returned to the abdomen.

Gunshot wounds of the abdomen frequently produce hemorrhage and profound shock. Most of the fatal cases succumb within a few hours. They are so quickly fatal that no type of treatment offers hopes of benefit. Even apparently hopeless cases, However, should be given every chance for recovery. Again the immediate intravenous administration of acacia, plasma or serum and normal saline solution may prove a lifesaver. Patients in shock must be treated for this condition and observed frequently. When the patient fails to recover from shock in three or four hours, it is reasonable to suspect that the condition is due to actual blood loss; therefore, prepare the patient for exploration as soon as the blood pressure has been raised to a level at which a laparatomy can be fairly performed. Again, patients arriving at the hospital without much evidence of shock should be taken to the operating room immediately for examination and preoperative preparation. A careful history should be taken and recorded. The physical examination must be thorough and the findings recorded. The bullet's wound of entrance and exit is particularly important; an imaginary line connecting these two wounds will indicate the course of the bullet through the body and the probable resulting trauma. If the bullet is still in the body, a flat x-ray film should be made and quickly developed to provide information regarding the location and size of the missile. It is often difficult to determine the optimal time for operation; yet the most important element aiding the recovery of patients with bullet wounds of the abdomen is a short interval between the injury and the operation. The decision whether to operate immediately or not is usually based on the rate and character of the pulse and the blood pressure reading. Patients showing a reduction in the pulse rate with an increase in its volume and a satisfactory blood pressure rise are probably good risk for operation. One with a feeble pulse of 120 or over and a blood pressure of 90 m.m. or under is in a grave condition and could hardly be expected to survive an operation; therefore, every effort should be made to improve the patient's condition before an exploration is undertaken.

EXPLORATION

Regardless of the location of an incised or punctured wound through the abdominal wall, intra-abdominal exploration requires a long midline or a paramedian incision. As soon as the abdomen is opened. blood clots and semi-solid faecal material should be removed with the hands; then the cleansing process may be continued with suction until finally a complete toilet of the abdomen and its contents may be made with sponges wrung of warm normal saline solution. Next check all hemorrhage by seeking out the bleeding vessels and ligating individually, avoiding mass ligation and devitalization of tissue; thereafter systematically examine for trauma to the viscus. This may reveal many injuries.

The entire gastro-intestinal tract should be minutely examined from the stomach to the rectum. A wounded stomach is usually flaccid. A stab wound may only injure the anterior wall of the stomach while a bullet wound will usually perforate both the anterior and posterior walls and may produce multiple wounds in the stomach; therefore, a wound in the anterior wall should always be enlarged for detecting and repairing wounds in the posterior wall. Aspirate blood and stomach contents as well as any spilled into the peritoneal cavity; then place a moist gauze pack in the abdomen to

help complete the cleansing process while the wounds are being closed. Clamp and ligate all bleeding vessels in the wounds, then close with two or three layers of small chronic catgut. Perforating or rupture wounds of the duodenum are rare, but they should be looked for in stab and gunshot wounds of the upper abdomen. The jejunum and ilium most frequently injured both in stab and gunshot wounds; likewise multiple perforations are common. Birdshot perforations of the intestine will usually seal over without a leak, but gaping lacerated wounds of the intestinal wall may occur. Birdshot may also cause serious hemorrhage from injury of important blood vessels. The nature of the injuries will naturally decide the operative procedure. Simple closure with a purse string or mattress suture of the intestine and covering with omental tags, should be used whenever possible. Longitudinal or oblique wounds should be sutured in a direction transverse to the axis of the gut to avoid constriction. Resection of the small intestine must be performed when there are multiple perforations close together or extensive trauma to the intestine, when there has been separation of the mesentery from the intestine, and when there is an infarct impairing the circulation of the intestine. Some type of end-to-end anastomosis, rather than a lateral, should be performed. Double and triple resections are sometimes necessary to save a life.

Perforating wounds of the cecum, ascending, transverse, and descending colon are to be considered very serious. Simple closure of the perforation is preferable, whenever possible. In extensive or multiple close wounds, resection will be necessary; here end-to-end anastomosis is preferable, Cecostomy is advisable after resection. If there is severe damage to the movable portion of the large intestine and the patient is in a critical condition, it is advisable to bring the damaged portion of the colon outside of the abdomen and perform a first stage Mikulicz operation rather than attempt a resection. In extensive wounds of the colon with widespread contamination of the peritoneum, when peritonitis can be expected, a posterior puncture wound should be made in the loin, through which is passed a soft rubber tube drain. It should be sutured in position with the end just penetrating the peritoneum. Retroperitoneal perforations of the colon are among the most serious of large intestinal traumas; they usually require a posterior incision over the site of the perforation. Injury to the intestine should be repaired; and when a posterior incision is made, the wound should be packed lightly with vaseline gauze, no closure being attempted. Perforating wounds of the rectum are very serious, especially so if complicated by wounds of the buttocks, peritoneum and ischiorectal fossa. Infection is especially liable to occur in wounds of the Gluteal region, and gas gangrene should be anticipated. If gluteal wounds are present, debridement should be thorough. The rectal trauma must be repaired and colostomy done; the latter is often a life saving procedure.

Both stab and gunshot wounds result in extensive injury to the great omentum. Bleeding vessels should be clamped and ligated. Contaminated and traumatised omentum should be ligated and excised.

The danger of mesenteric trauma is not generally appreciated. This is frequent in perforating wounds and may present a difficult problem in locating an injured blood vessel. The extent of injury is particularly difficult to determine in some cases, on account of obscuring hematoma which rapidly develops between the leaves of the mesentery. The mesentery roots should be carefully inspected for trauma. Blood effusion in the mesentery close to the intestine is suggestive of an intestinal trauma. Traumatic thrombosis of the mesentery veins occur rather often. Infraction is most frequently met in the large intestine wounds. When the circulation of the intestine is impaired, a resection must be performed. Bleeding vessels in the mesentery should be clamped and ligated individually, but as previously stated, mass ligation of the mesentery should never be done.

Perforating abdominal wounds frequently result in profuse retroperitoneal hemorrhage with extensive extravasation of blood and the formation of large hematoma. Hematomas in the pericolic and retrocolic tissue and in the retroperitoneal space invariably become infected unless drainage is established.

Large foreign bodies must be removed at the time of operation. Bullets readily located and easily removed can be extracted at the time

of operation; yet prolonged search for bullets or other small foreign bodies is never justified.

Penetrating wounds of the liver may result in scant bleeding or in a hemorrhage which is rapidly fatal. Many of the penetrating wounds of the liver do not require special care. Strips of the rectus muscle or omental strands packed into the wound and fixed with stitches will usually check the bleeding. Strands of catgut passed parallel to the rent, as a support for the approximating sutures, will prevent their cutting through; then heavy chromic catgut is introduced to approximate and hold the liver surfaces. When danger of infection, and when the case is seen late, gauze packing will be necessary. Dust powdered boric acid on the gauze before using, as the plain gauze is quite certain to result in a low grade infection which delays wound healing and favors secondary hemorrhage. The packing should not be removed for two weeks.

Penetrating wounds of the spleen may cause only slight bleeding; but more frequently they will result in serious hemorrhage, and there is always great danger of infection. The spleen does not lend itself to satisfactory suturing. The small bleeding puncture wounds should be packed with strips of rectus muscle or strands of omentum and held in place with stitches. Extensive trauma to the spleen will necessitate splenectomy. When this is inadvisable because of the critical stage of the patient or because of technical difficulties, gauze dusted with powdered boric acid should be packed into the wounds. This should not be disturbed for two weeks.

Perforating wounds of the pancreas are rare. Traumas to the head is more serious than injury to the tail. Hemorrhage is usually profuse and should be checked with sutures; one should be careful, however, not to catch the ducts. Wounds in the gland should be sutured and drainage instituted. A posterior puncture wound in the loin and insertion of a Penrose drain are then required. If the tail of the gland is partly incised, severing the ducts, it should be removed.

Perforating wounds of the large bile ducts and the pancreatic ducts must be considered as serious. Again a posterior puncture wound in the loin with a Penrose drain passed from within through the wound, leaving a short end in the peritoneal cavity, will give the best results.

ASSOCIATED PENETRATING WOUNDS

Traumas to the bladder should be suspected in penetrating wounds of the lower abdomen. Penetrating wounds of the bladder may be extraperitoneal or intraperitoneal; the former is must frequent. Blood stained urine may escape through the puncture wound. A voided specimen of urine should be obtained if possible; otherwise, catheterize, unless an intraperitoneal penetration is suspected; here any type of instrumentation is likely to contaminate the bladder and peritoneum unless done under the strictest aseptic technique. The urine should be examined for blood, as hematuria is constant in the presence of perforation. If blood is found, a cystoscopic examination should be done to determine the extent and position of the perforation. When the diagnosis is made of a perforation of the bladder, an immediate procedure must be carried out to correct the trauma. A low paramedian abdominal incision is made to expose the extraperitoneal wound in the bladder. All extravasated urine should be removed by suction and the contaminated wound surfaces mopped with moist warm sponges. The wound in the bladder is closed with small chronic catgut sutures, the depth and walls of the wound are sprinkled with 10 gm. of sterile crystalline sulfanilmide, a Penrose drain is carried down to the bladder wound, and the addominal wound closed in layers. Then a retention catheter should be passed through the urethra into the bladder and kept in place for a week. Retrovesical perforations should be drained through the perineum. A long paramedian abdominal incision must be made for the intraperitoneal perforations. As soon as the abdomen is opened, blood clots should be removed with the hands, while blood and urine will be drawn off by suction. The abdominal viscus should then be carefully examined for traumas. All bleeding vessels must be clamped individually and ligated. The wound in the bladder should then be located and the surrounding peritoneum carefully dissected from the bladder wall. The bladder wall must next be closed, using two or three layers of small chronic catgut sutures. Thereafter carefully close the peritoneum over the bladder wound. Other intra-abdominal traumas may now be repaired and any trace of

urine removed with warm moist sponges. From 10 to 12 gm. sterile crystalline sulfanilamide should be sprinkled into the abdominal cavity and the peritoneum closed. A suprapubic cystotomy should then be performed, and the abdominal wound sprinkled with 2 to 4 gm. of the same drug before the wound is closed. The patient, of course, should receive the best postoperative attention and treatment possible.

Professional Bldg.

Non-Obstructive Jaundice

V. G. PRESSON, M. D.
Tucson, Arizona

JAUNDICE is a term describing the yellow appearance of the skin and sclera, and mucous membranes caused by the deposit of certain chemicals in these tissues. It is always caused by disfunction of the hepatic or hemapoietic systems in one form or another. It is divided into Obstructive and Non-Obstructive types, which should not be considered together from an etiologic standpoint except for differential purposes and the occasional time when they may occur concurrently.

The non-obstructive type has two divisions—Hematogenous and Intra-hepatic.

The hemolytic type of jaundice is caused by the malfunction of the hemapoietic system, or disease of the blood. There is recognized the familial or congenital form; icterus of the the newborn; pernicious anemia; sickle-cell anemia; atypical hemolytic; malaria; and hemolytic septicemias.

The familial form, or inherited type, of hemolytic jaundice occurs frequently and there is no etiologic factor known. This type is usually accompanied by an anemia, but not always. It is passed on from one generation to another and usually the patient can give a history of other members in his family having had this disease. They are usually able to work and carry on their business affairs but have a persistent and constant jaundice which may vary in intensity from time to time but seldom completely disappears.

The icterus of the newborn usually lasts only a comparatively short time and completely disappears and does not necessarily occur in later life. It is thought to be caused by hemolytic manifestations with certain amount of hemolysis in the fetus and infant due to allergic reactions carried over from the mother's or father's blood, according to which type the infant takes on.

Pernicious anemia and sickle-cell anemia cause a typical lemon-colored yellow jaundice, which very seldom becomes deep. The etiology of these conditions is unknown.

We have many a typical hemolytic anemias, sometimes taking one form, sometimes another. These cause jaundice somewhat similar to pernicious anemia in appearance. However, they do not have the sickle cells and lack the fragility usually found in hemolytic anemias.

Malaria and hemolytic septicemia cause anemia by the destruction of the red blood cells in the blood stream and releasing an overamount of free hemoglobin to be reduced to bilirubin. This bilirubin is then deposited in the skin and sclera. These conditions are transitory and clear up entirely if one is successful in eliminating the disease. However, it must be remembered that certain damages may be done to the liver, either chemically or infectious, causing the intra-hepatic type of jaundice to accompany or follow the hematogenous jaundice.

Intra-hepatic jaundice is caused by disturbance of liver cell function. We recognize the following types:

1. *Infectious*—
   a. Epidemic
   b. Sub-acute and chronic hepatitis
   c. Spirochetal
   d. Weil's Disease
2. *Toxic*—
   a. Drugs, such as arsenic, cinchophen, industrial poison, phosphates and other chemicals.
3. *Systemic Disease*—
   a. Exophthalmic Goiter
   b. Cirrhosis of the Liver

Read at the Fifty-first Annual Meeting of the Arizona State Medical Association, held in Prescott, Arizona, May 25-29, 1942.

c. Toxemia of Pregnancy
d. Cirrhosis, portal and biliary
e. Hepatitis—atrophy and necrosis.

4. *Yellow Atrophy*—infectious conditions causing intra-hepatitis.

Jaundice can occur in most of the contagious diseases, and sub-acute chronic hepatitis resulting from these; or a hepatitis resulting from infectious disease in the gastro-hepatic structures of the biliary system, such as long sieges of chronic cholecystitis or inflamation of the ducts, resulting in pressure and infectious destruction of the liver cells.

The Spirochetal type is the result of disfunction of the liver cells caused by syphilis and Weil's Disease.

The Toxic type by the result of various toxic drugs mentioned above destroying liver cellular structures and interfering with liver function.

Hepatitis Cirrhosis, a chronic hepatitis of the atrophy type, results in destruction of the liver cells and concomitant reduction of liver function because of this cell destruction.

Yellow Atrophy of the liver accomplishes the same end. The etiology of this condition is unknown.

Cholangitis is a loose term which does not properly define either etiological or pathological conditions in the liver completely. It is usually meant to describe the condition of infection of the intra- and extra-hepatic ducts, usually resulting in destruction of liver cells. It is most frequently caused by obstructive foreign bodies or lesions in the extra-hepatic ducts, and is one condition where there may be both obstructive and non-obstructive jaundice, potentially, at the same time.

Catarrhal or Epidemic jaundice is well known but it is not certain that it is an entity. It is presumed to cause a non-obstructive type of jaundice by lesions in the liver cells themselves. However, many cases diagnosed primarily as catarrhal jaundice will eventually turn out to be some chronic form of hepatitis, causing ascites and edema.

DIAGNOSIS

When the patient first appears a careful history and physical examination should be made. The diagnosis of jaundice, of course, is apparent; but the differential diagnosis between obstructive and non-obstructive jaundice should be determined as early as possible. Once this is determined, the type of non-obstructive jaundice is usually not so deep in the non-obstructive as in the obstructive; but one must not be misled by this as the early obstructive jaundice, or one that is not completely obstructive, may give only a faint yellow tinge. A history of the onset is valuable. Usually obstructive jaundice gives a history of gastric disturbance, gas eructations, some pain and the onset relatively sudden. Quite frequently there will be a history of sudden, cramp-like pains which would lead one to suspect cholelithiasis. The non-obstructive type is slow in appearing and the usual history points to the fact that the patient, as he looks back over his illness, notice that first he was told that he was pale and the skin was an off-color rather than being yellow. He later becomes conscious that he is yellow. He seldom, if ever, has any gastric disturbance, and there is no pain in the hematogenous type. However, in the intra-hepatic type there may or may not be pain in the upper right quadrant, due to a swollen, infected liver.

Bilirubin is formed in the liver from the iron-free part of the hemoglobin. This bilirubin is in the bile and flows from the liver by way of the bile ducts into the intestinal tract, where reduction takes place. This reduction usually occurs in the colon, but can occur also in the lower ileum. The reduction products of this bilirubin are urobilin and urobilinogen. The greater part of the bilirubin reduced in the intestine leaves the body in the stool, a small part being absorbed and carried to the liver. When the liver function is normal urobilin and urobilinogen do not enter the blood or urine, being re-oxidized by the liver to bilirubin and perhaps partly retained. A small amount of bilirubin may be demonstrated in the urine under normal circumstances, but in the case of damage to the liver parenchyma an enormous amount—500 to 1,000 mg.—of urobilin may be excreted daily.

Examination of the urine for urobilin is of special importance in obstructive jaundice. If this is completely impassable bilirubin does not reach the intestine and its reduction products are not formed, so that they do not appear in the urine.—In other words, in jaundice, if there is a complete disappearance of these reduction products, there is complete obstruction of the bile flow; whereas, if there is an increase, it is evidence of disturbed liver function.

There is one type of non-obstructive jaundice —that is, the hemolytic type, wherein there may be a high appearance of these products without liver disfunction. This is the result of the extra amount of hemoglobin due to hemolysis passing through the liver and being changed into bile of higher bilirubin content reaching the intestinal tract from the biliary system, forming excessive amounts of urobilin and urobilinogen. Therefore the excessive amounts of this product in the urine do not necessarily mean liver damage and we may safely assume that the jaundice is of hemolytic type and not hematogenous. In the non-obstructive type of jaundice the stools are normal in color; whereas, in the obstructive type they vary from a very light yellow to a clay color, as a result of the acholia of the stools. In the obstructive type of jaundice the urine contains varied amounts of bile, usually detectable on gross observation; whereas, in the non-obstructive type this does not occur. In the obstructive type of jaundice there is usually severe pruritis; but in the non-obstructive type seldom do we find itching.

The van den Bergh test is always indirect in the hematogenous type of jaundice, but is direct in the intra-hepatic type, especially the toxic and infectious type.

The cholesterol usually decreases or stays at normal in the intra-hepatic type. The bilirubin in the blood is very high in acute hepatitis, going 25 to 35 mgms.

Most of the liver function tests other than the van den Bergh are not of a great deal of value in the making of a diagnosis or prognosis in the presence of jaundice.

The icterus index test is not a liver function test but merely tells the amount of bile that is of some value in jaundice, being normal in obstructive, and reduces in intra-hepatic.

The cholesterol is increased in obstructive jaundice and reduced in intra-hepatic.

The galactose tolerance test is normal in obstructive jaundice and reduces in intra-hepatic.

The serum proteins are normal in obstructive jaundice and reduced in the intra-hepatic, with a reverse albumin globulin ratio.

This paper is not in any way attempting to suggest therapy for the various types of non-obstructive jaundice. Suffice to say that first the differential diagnosis must be made between obstructive and non-obstructive; and, secondly, the differential diagnosis between the various types of non-obstructive changes must be made. The treatment indicated varies considerably with the different types encountered. Therefore, the treatment may consist mainly of treating the principal etiological factor back of this jaundice, if such treatment is available, either in corrective or symptomatic form.

CONCLUSIONS

The first important factor is a differential diagnosis between obstructive and non-obstructive changes; the second important factor is the differential diagnosis with the various types of non-obstructive jaundice—first between the hematogenous and the hepatogenous, and secondly the differential diagnosis between the forms under these headings; and third, history, physical examination and laboratory examinations will determine the diagnosis. These diagnoses are made by history, physical examination, laboratory and X-ray.

Thomas-Davis Clinic

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AMERICA AT WAR

REVISED INSTRUCTIONS FOR FIELD CASUALTY AND AMBULANCE UNITS OF THE EMERGENCY MEDICAL SERVICE

Because of the diminishing supply of civilian physicians and nurses and the growing necessity to conserve manpower, the following economies in the organization and operation of field units of the Emergency Medical Service are to be recommended to all States and local Chiefs of Emergency Medical Service for adoption:

1. *Mobile Medical Teams.*—Emergency Medical Field Units are to be composed of mobile medical teams and no longer of squads or groups of teams. Each mobile medical team is to consist, as heretofore, of one physician, one nurse, and two auxiliaries.

2. *Express Parties.*—Immediately upon re-

ceiving an air raid warden's report of a bombing incident with casualties, the Control Center will dispatch only one Express Party to each major incident. An Express Party will consist of one Rescue Team, one Mobile Medical Team, one ambulance, and perhaps one passenger car or station wagon.

3. *Reserves.*—Such an Express Party will *usually* be sufficient to handle a major incident or a group of neighboring minor incidents with casualties. Additional medical and rescue personnel, ambulances, and passenger cars for sitting cases should be help in reserve and should be dispatched by the Control Center only upon subsequent request of the incident physician (head of the mobile medical team) or of the incident officer at the scene.

4. *Reduction in Movement and Use of Medical Personnel.*—Mass air raids have occurred chiefly, although not exclusively, at night; both night and day raids are now usually sudden and intense. As protection against a sudden and unexpected attack by the enemy, every hospital having internes or residents is urged to have at least one or more mobile medical teams constantly on call so as to be ready to respond promptly to the order of the Control Center. Most alarms are not followed by an enemy attack; the availability of a few mobile teams at each hospital will make it unnecessary in most cities to disturb the depleted and overworked medical profession by requiring them to mobilize at casualty stations throughout the city on every alert. Moreover, the first line mobile medical teams of hospitals also need not be disturbed until medical service is needed at an incident where casualties have been reported. Practicing physicians of the neighborhood should be mobilized to relieve the primary mobile team when there is a continuing need for field services at the incident or when multiple or large incidents make it desirable to activate a casualty station for the care of the slightly injured. Conservation of medical personnel in this manner will, from now on, become increasingly important.

5. *Reduction in Number of Casualty Stations.*—Conservation of emergency medical service personnel can also be accomplished by reducing the number of casualty stations which must be equipped and staffed. British experience over 3 years indicates that most cities do not require more than one casualty station for each 25,000 persons and that they need not be nearer than a mile apart. Casualty stations for the temporary care of minor casualties are required at or near every hospital. They are also required in parts of a city a mile or more from a hospital and in sections which are geographically isolated. Every community is requested to reexamine its casualty stations in the light of these requirements and to eliminate all unnecessary locations.

6. *Economy in the Use of Casualty Stations.*—Casualty stations need not be activated in areas where no casualties have been reported. A mobile medical team should always be available at hospitals to activate its casualty station when necessary. A mobile medical team should be dispatched or assembled at casualty stations near incidents only when casualties have been reported in that vicinity.

The mobile team for a casualty station located at a hospital is, therefore, best derived from the hospital; a mobile team for emergency service at casualty stations remote from hospitals should be derived either from a hospital, if within 3 miles, or from the physicians, nurses, and auxiliaries residing in the neighborhood if more than 3 miles away or otherwise geographically isolated.

7. *Central Control.*—The Chief of Emergency Medical Service or his deputy at the Control Center will keep a record of all hospital mobile teams and ambulances in his district and of physicians, nurses, and auxiliaries living in the vicinity of each casualty station, who are on call for emergency service. He will determine when to dispatch a mobile medical team from a hospital to an incident or to activate community medical personnel for service at an incident or casualt ystation.

8. *Elimination of Advanced First Aid Posts.*—All fixed first aid posts can be eliminated. Experience has shown that under the conditions of darkness, confusion, and dirt that exist at air raid incidents, it is rarely necessary or even possible to establish a temporary first aid post. In the darkness and dirt it is impossible to do much more for air raid casualties on the spot than cover their wounds, control hemorrhage, apply a simple splint, and administer morphine before they are removed to the hospital. Most

of this work has already been done by rescue workers and the incident physician by the time the casualty is extricated. Only at a large incident with many casualties may it be desirable to establish a first aid post at an appropriate protected site. Even under these circumstances, it should be used as a base of operations for medical personnel rather than a place where severely injured casualties are brought for treatment.

9. *Rescue Units.*—Services of Stretcher teams are required at hospitals for unloading of ambulances. Stretcher teams (and so-called first aid parties) are not required in the field, for whatever first aid is possible at incidents is done by the trained rescue worker under the direction of the incident doctor. To conserve manpower, stretcher teams may be disbanded as soon as the rescue teams have been organized and trained, or they may be transferred to the rescue service. The equipment of a rescue team will hereafter include four stretchers. An intensive training program for rescue workers will be announced shortly.

10. *Ambulance Units.*—To reduce the movement of vehicles during an air raid, to economize in driver personnel, and to expedite the transport of large numbers of serious casualties from the incidents to hospitals, as many ambulances as possible should be remodeled so as to enable them to carry four stretchers. The use of one- and two-stretcher vehicles greatly delays the movement of large numbers of casualties to hospitals and may result in needless loss of life. To provide adequate transportation of casualties in mass air raids, exposed cities in the target areas require at least one four-stretcher ambulance of every 10,000 persons, depending upon the location of hospitals and the distances to be covered, and half that number of passenger cars or station wagons for sitting cases. Specifications for the conversion of used cars into four-stretcher ambulances will be provided by the Medical Division, United States Office of Civilian Defense.

11. *Ambulance Depots.*—To be immediately available at all times, four-stretcher ambulances and pasenger cars (sedans or station wagons) should be parked at hospitals, where drivers are always on duty, or else grouped in ambulance depots located at garages in various parts of the town. Only persons residing in or living in the vicinity of the hospitals or ambulance depots should be assigned as drivers of the vehicles.

12. *Interhospital Ambulance Units.*—An additional number of large vehicles such as busses should be promptly available day and night for the simultaneous evacuation of hospitals during an air raid. In heavy air raids it has been necessary to move as many patients from evacuated Casualty Receiving Hospitals to peripheral or Emergency Base Hospitals as from incidents to hospitals within the city. In exposed cities in the target zone, it should be possible to evacuate all patients from a hospital in 2 or at the most 3 hours without utilizing the ambulance transportation of the field casualty service.

NOTICE!

"It is of the utmost importance that the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians immediately has the name of any doctor who really is willing to be dislocated for service, either in industry or in over-populated areas, and who has not been declared essential to his present locality. This is necessary if the medical profession is to be able to meet these needs adequately and promptly. We urgently request that any physician over the age of 45 who wishes to participate in the war effort send in his name to the State Chairman for Procurement and Assignment Service in his State."

(Signed)
Frank H. Lahey, M. D.
(Chairman, Directing Board)
Chas. S. Smith, M. D.
Nogales, Arizona
(Chairman, Arizona)
L. B. Cohenour, M. D.
Albuquerque, N. M.
(Chairman, New Mexico)
T. J. McCamant, M. D.
El Paso, Texas
(Chairman, El Paso County)

SOCIETY ACTIVITIES

FRANK J. MILLOY, M. D.
Secretary
Arizona State Medical Association

L. B. COHENOUR, M. D.
Secretary
New Mexico Medical Society

LOUIS BRECK, M. D.
Secretary
Southwestern Medical Association

CHAS. F. RENNICK, M. D.
Secretary
El Paso County (Texas) Medical Society

ARIZONA STATE MEDICAL ASSOCIATION

(J. D. Hamer, Associate Editor)

SUBCOMMITTEE ON SILICOSIS

Formation of Subcommittee: Following the Annual Meeting of the Association, held in Phoenix in April, 1941, at the first subsequent Council meeting, the desirability of a Committee to make a study of silicosis was discussed. This was authorized by the Council as a subcommittee of the Committee on Industrial Hygiene, of which Dr. O. E. Utzinger was chairman. He requested Dr. Watkins to serve as chairman of the Subcommittee on Silicosis, and the following additional members were appointed:

Dr. John W. Flinn of Prescott.
Dr. Samuel H. Watson of Tucson (later succeeded by Dr. Wm. M. Shultz).
Dr. Frank T. Hogeland, Cananea.
Dr. Louis Baldwin, Phoenix.
Dr. Fred Holmes, Phoenix.
Dr. Thos. Hartgraves, Phoenix.
Later, Dr. W. L. Minear, of Patagonia, was added.

The main task of this Subcommittee has been to review all the medical literature on silicosis, of the past ten years, in order to become acquainted with the state of present knowledge of this disease. With the assistance of the Librarian of the Maricopa County Medical Society, a list of all the available articles on the subject was made (about 500 of them). Published books on silicosis and the publications of the several governmental agencies (Public Health, Bureau of Mines, Bureau of Labor) were secured and made available. The task of review and compilation of opinion was too much for any one member of the subcommittee, the work was apportioned to the several members, as follows:

Dr. John W. Flinn,—"History and Causes of Silicosis and Other Dust Disease."
Dr. Louis Baldwin,—"Diagnosis of Silicosis, with Differential."
Dr. Thos. Hartgraves, — "Pathological Changes, Stages and X-ray Appearances."
Dr. Wm. M. Shultz,—"Clinical Course."
Dr. Fred Holmes,—"Complications, Treatment and Disability."
Dr. W. W. Watkins,—"Protective Measures Now Used in Arizona."
Dr. Frank T. Hogeland,—"Legislation Now in Force and Recommendations for Arizona."
Dr. W. L. Minear,—"Special Methods in Disability Evaluation."

Dr. Hartgraves and Dr. Minear have not yet made final reports, but the other members of the subcommittee have done their work and the following brief summary will present the points which we consider the most important in relation to legislative proposals.

Silicosis has been recognized since ancient times, but practical investigations leading to our present day knowledge have all been carred out within the present century. In 1915 Collis demonstrated that only exposure to fine silica dust was particularly dangerous and in 1924 asbestosis was also incriminated as a dangerous form of dust inhalation. At the present time these are are the only recognized diseases arising from industrial dusts in Arizona.

Cause of Silicosis: The fibrosis of the lungs which we recognize as silicosis or asbestosis is produced only by the inhalation of free silica dust or silicates with fibrous structure (asbestos). This free silica may be either amorphous or cyrstalline. To bring about silicosis, the free silica dust must be inhaled under three conditions:

(1) The particles must be small enough to enter the lung alveoli and become phagocytosed (not larger than five microns in diameter.)

(2) The dust particles of sufficient minuteness must be present in sufficient quantity. Hygienists and engineers have established the fact that there must be more than five million free silica particles per cubic foot of air to be harmful.

(3) They must be inhaled over a long period of time. Whlle authorities differ somewhat as to the time element, all agree that even dangerous concentrations of free silica (25 to 50 million particles per cubic foot of air) must be inhaled over a period of years to produce silicosis in the clinical sense. Four or five years is the shortest period given by anyone (except for some rare exception), and from this time up to 20 or 25 years. In South Africa, where the dust concentration and silica content were both high, the average was 9.6 years.

(NOTE: This is the basis for the requirement in the Utah law that a worker must have been employed in that state in a dusty occupation for five years, before he is eligible to claim compensation for silicosis. Observation has shown that at least five years is required to inhale enough dust to produce the disease).

Pathology and X-rays: Dr. Hartgraves has not yet reported on his review, but the pathological findings are well described in a number of articles and books. Summary of these are not necessary for drafting of legislation. The X-ray appearances need not be described in detail, except to say that while well developed silicosis gives a characteristic picture, these appearances may be closely simulated by other diseases, and expert interpretation is necessary.

Diagnosis: Silicosis commonly runs a uniform course, with two uncommon types which are rarely encountered. They are (1) cases which continue to be progressive after exposure to dust has been eliminated; (2) the acute silicosis occurring in the couring powder and soap industries. The cardinal symptom of well developed silicosis is shortness of breath; the cardinal physical sign is decreased chest expansion and the earliest specific diagnostic indication is the appearance on the X-ray film. However, the diagnostic cannot be made without correlating the occupational history, the symptoms and signs with the laboratory and X-ray findings. The two most important considerations are the careful occupational history and the X-ray films of the chest. The diseases or lesions from which silicosis must be differentiated include:

(1) Passive congestion of the lungs from cardiac decompensation or coronary thrombosis.

(2) Advanced bilateral bronchiectasis.

(3) Malignant metastases.

(4) Asthma.

(5) Polycythemia.

(6) Miliary or diffuse tuberculosis.

(7) Mycotic lung disease (actinomycosis, leptothryeosis, spirochetosis, moniliasis, etc.)

(8) Interstitial or theumatic pneumonitis.

Clinical Course: Divided into so-called "stages" which is an arbitrary division and varies with the different authorities. The meaning of "first stage," "second stage," or "third stage" is not universally the same. However, it is agreed that the early stages of simple silicosis are not disabling, even though there may be a slight increase in breath rate (dyspnea). As the disease progresses to later stages, other disabling symptoms develop due to the increasing fibrosis and emphysema. The *average amount* of time required for the development of the first symptoms are estimated to be from five to ten years. The duration of the disease from the beginning of first symptoms to the end is also roughly averaged at ten years, of which six to eight years cover the period of slight to moderate symptoms, with a year or two of complete disability.

Prognosis and Disability Evaluation: It is the rule that no disability results from simple silicosis until the disease is well advanced. When a worker claims disability, the burden of proof should rest on the employer or insurer to prove that disability is not present, should they contest the claim. A complete study of the worker is necessary, covering the heart, respiratory function, blood, nervous system. This will require experts in several lines of investigation.

Conditions in Arizona: Information was secured from the chief mines at Bisbee, Miami, Jerome and Cananea. In all these mines modern methods of ventilation and dust control are used and the dust concentration is checked frequently and effort made to keep the quantity of free silica in the air well below the danger

limit. As far as could be ascertained, no disabling silicosis has developed in any of the principal mines of Arizona, in a miner who has been working there for five years or less.

Legislation: The legislation now in effect in twenty-two states has been studied, and the points covered by the laws have been incorporated in a questionaire sent to doctors, employers, and labor representatives.

Summary of the replies was presented by Dr. Watkins to the first conference of all these groups, at which Mr. Don Cummings was present as the special adviser for our Subcommittee.

This Subcommittee suggests to the *Committee on Public Policy and Legislation* that the medical facts support the following recommendations by us as features which should be included in any proposed Arizona law:

1. Our law should be a *scheduled law* limited to silicosis and asbestosis.

A General Coverage law or a Schedule Law including all known industrial diseases is too *radical a step* to take without more complete knowledge of the industrial hazards in Arizona. It would be better to start with silicosis and asbestosis, develop the machinery for handling these and then gradually add other diseases as it becomes demonstrated that hazards exist in Arizona. (Note: Further discussions in conference modified this recommendation.)

2. The law should be compulsory on both employees and employers. Probably not a medical question, except for the individual doctor.

3. The present Industrial Commission could easily handle the administration at present, and a separate department could be created when the need for this arises.

4. The law should specifically require that the medical questions in any individual case shall be referred to a *Medical Board.* This Board should be flexible and law should provide that it shall be selected from a panel of specialists named by the Medical Association, from which panel a Board of three can be selected by the Commission when needed; in addition the claimant can name a doctor and the employer can name one,—making a Board of five.

5. Whether the decisions of the Board are to be binding on the administrative agency or not seems immaterial. The occasions will be rare indeed when the Commission would reject the recommendations of this Board.

6. As to how long a workman should have worked in Arizona or for any given employer before he can claim disability and compensation, —it would seem that the requirement of the Utah law is good, and it should be provided that the workman must have been employed in Arizona mines or other dusty occupations for five years and for any given employer for one year, —in order to qualify for compensation for disability for silicosis.

7. As to the time limit for claim filing or for filing of death claims. The best medical knowledge would support the rule that one year should be allowed for symptoms to develop,— and claims would not be valid for disability developing after this time.

It is possible that some provision should be made to protect the exceptional case who will develop late symptoms and disability more than a year after exposure to dust has ceased. The burden of proof should, however, be on the claimant in such cases to furnish medical proof in connection between his disability and the previous exposure.

8. There should be a maximum liability, such as the $3000 provided in the Utah law.

9. With regard to medical care. If the partial disability is not recognized or made compensable, medical care would be required only in the totally disabled case, which would mean far advanced simple silicosis or silico-tuberculosis. It would seem that medical care should be provided for the remainder of the workman's life, in some manner.

10. With regard to partial disability, our recommendation is either (1) that compensation for partial disability not be provided, or (2) if it is provided, that the employers be protected by a severance award provision. Mr. Cummings' idea seems good to us; that the employee be encouraged to work as long as he can (unless he develops tuberculosis), and when he becomes unable to work, that total disability compensation be provided. (One member of our committee dissents from this.)

11. It is the opinion of the Subcommittee that both pre-employment and post-employment examinations be required of all workmen who enter employment in dust hazardous occupations in the state, these to include X-ray films

with interpretation by a qualified reentgenologist,—films to be filed with the Commission.

12. If the maximum compensation is paid in a lump sum, that should release the employer from any further responsibility, either for medical care or for disability.

How compensation shall be paid, or how the matter of accrued liability will be handled are matters outside the province of this Subcommittee. We would suggest, however, that the Canadian law of creating an insurance fund by assessing all mining companies on a prorata basis be studied. If that is not done, the graduated scale method of absorbing the accrued liability, as in the New York law, is worth considering.

W. Warner Watkins, Chairman.
John W. Flinn
Wm. M. Schultz
Louis B. Baldwin
Fred G. Holmes
Thos. Hartgraves
Frank T. Hogeland
W. L. Minear

Nov. 15, 1942.

REPORT OF THE SUBCOMMITTEE ON SILICOSIS of the COMMITTEE ON INDUSTRIAL HEALTH Arizona State Medical Association

* * * *

SUMMARY AND CONCLUSIONS

The duties of the Committee on Industrial Health of our Association are set forth in our Constitution and By-Laws as follows:

"It shall keep the profession informed as to the latest scientific knowledge on all phases of their problems; shall cooperate with the committee of the American Medical Association and other committees of recognized standing. Their work shall include (a) Fractures, (b) Occupational Diseases. This committee shall make a survey of the occupational diseases and industrial hazards of Arizona. They shall study their causes and make recommendations as far as possible for their alleviation and prevention. They shall study findings and actions of other state and national organizations on occupational diseases and be prepared to cooperate with the Committee on Public Policy and Legislation on any desirable or proposed legislation."

At the last session of our legislature there was introduced and given consideration a bill which was intended to make industrial diseases compensable, as industrial injuries are at present. As first introduced this Bill included only silicosis, but later was broadened to cover all industrial diseases. It soon became apparent that this proposed legislation lacked many features desirable in such a law, and it failed of passage. Since so many medical questions were raised during the hearings on the bill, and the opinions expressed by individual physicians varied so widely, it seemed to the Council of this Association that the appropriate committee should proceed to make a survey, at least of the information available in the literature on silicosis and allied industrial dust diseases, summarize this and make the information available to the Association, so as to "keep the profession informed as to the latest scientific knowledge" on this phase at least of the great problem of industrial diseases. The Committee on Industrial Health was asked to appoint a Subcommittee on Silicosis, to make such a study and to formulate a report which would have the united approval of the Association, and which could be used by the Committee on Public Policy and Legislation, whenever legislation is again on this matter. The Subcommittee on Silicosis appointed is composed of Drs. W. Warner Watkins, (chairman), Phoenix; John W. Flinn, Prescott; Wm. M. Schultz, Tucson; Frank T. Hogeland, Cananea; Fred G. Holmes, Phoenix; Louis B. Baldwin, Phoenix; Thos. A. Hartgraves, Phoenix; and W. L. Minear, Patagonia. The Committee on Industrial Health is composed of Drs. O. E. Utzinger (chairman), Ray; J. P. Austin, Morenci; Kenneth Herbst, McNary.

This Subcommittee has reviewed the available medical literature of the past ten years, including about 500 articles and several books, with the publications of the United States Health Service, the U. S. Labor Bureau, the U. S. Bureau of Mines and the American Medical Association. A summary of this review is being compiled, and the Subcommittee presents this condensed summary and conclusions, based on our review, our own knowledge of silicosis, and such superficial survey of conditions in Arizona as we have been able to make. These conclusions are of three kinds, with a preliminary declaration containing three recommendations.

DECLARATION AND RECOMMENDATIONS

A. The Committee on Industrial Health and the Subcommittee on Silicosis recommend to the

Arizona State Medical Association that this Association declare its conviction that silicosis and other disabling pneumoconioses should be made compensable industrial hazards in Arizona, thus joining this state to the twenty-two other states which have esablished this provision.

B. We further recommend that this Association pledges its support to legislation which will provide justly and adequately for the care and compensation of workmen who have become disabled by silicosis and other pneumoconioses through working in mines and other industries in Arizona.

C. We further recommend that our Committee on Public Policy and Legislation give very careful study to any legislation proposed, in order to see that its provisions are in accord with the known medical facts, in providing adequately protection against industrial dust hazards, in accurately and scientifically determining the disability produced by dust diseases, in justly compensating the workman, and fairly placing the responsibility for the disability produced.

CONCLUSIONS

Our conclusions are of three kinds:

I. Conclusions regarding which there is no disagreement among the authorities and workers with silicosis.

II. Conclusions as to problems concerning which there is still not complete unanimity of opinion.

III. Questions which seem to us very important and which should be resolved before intelligent legislation can be enacted.

I.

1. There is no disagreement as to the *cause* of silicosis; that is with reference to the kind of dust, the size of the dust particles, and the concentration of dust necessary to produce silicosis.

2. There is no disagreement on the proposition that *silicosis is preventable.* Therefore, the first line of attack on this disease, as with all other preventable diseases, should be directed toward establishing adequate preventative measures. Any adequate legislative program should include this.

3. There is no disagreement wtih the observation that, with the exception of a few rare examples which have occurred in industries not found in Arizona, silicosis requires several years to develop.

4. There is no disagreement with the statement that the first and second stages of *simple* silicosis (not complicated by infection) is not disabling and requires no treatment.

5. On the other hand, there is practically no disagreement with the statement that a lung which is the seat of silicosis is more susceptible to tuberculous infection, and that the tuberculosis is usually more rapidly progressive in such a lung, than in normal lungs.

6. All authorities are in agreement that the diagnosis of silicosis is not the simple matter it was once thought to be, either as regards the presence of silicosis, its stage, complicating infection, or the amount of disability present. The roentgenogram gives only partial information which must be correlated with the history, the physical findings and the clinical signs. Several other conditions will cause X-ray shadows so nearly like those of silicosis that the most expert interpreter may be deceived.

7. There is unanimity of opinion that individual cases vary so widely, and the medical problems are so involved that the only rational procedure for providing an accurate determination of the presence of silicosis and a just estimate of the disability produced in any workman is through a board of medical experts with special knowledge and training in these conditions. This being the case their decision should either bebinding on the compensation board, or should carry such weight that the board would hardly dare reject their opinions.

II.

Among the problems regarding which there is still room for study and on which opinions differ, may be mentioned:

1. The occurrence of acute silicosis and under what conditions it will develop.

2. Whether or not silicosis is progressive after removal of the workman from exposure to dust concentrations within safe limits.

3. Whether silicosis beyond the second stage, *without* infection is disabling.

4. Based on medical knowledge of the development of silicosis after exposure what should be the time limit after the last exposure for claim filing for disability or death from silicosis?

5. Based on medical facts, should there be

compensation for partial disability from silicosis?

6. Based on medical facts, should there be a time requirement as to exposure, in order to establish liability of an employer.

7. What provision should be made for the care of and compensation of, workmen with non-disabling silicosis who develop tuberculosis and are disabled because of the latter disease?

III.

The Subcommittee recognizes the great importance of several questions which we have not had time to investigate. If the information on some of these is available, we do not yet know where to obtain it.

1. To what *extent* is silica and other industrial dusts hazards to the workmen in the mines and other industries of Arizona?

2. What other industrial diseases are present in Arizona and to what extent?

3. Should there be a Bureau of Industrial Hygiene, and should this be connected with the State Board of Health? If so, should its duties be entirely educational and preventative, or should it also be their business to determine when the individual workman is disabled and to what extent?

4. Whether done under the jurisdiction of the Board of Industrial Hygiene or the Compensation Board, by whom should disability be determined? By a fixed Medical Advisory Board, by special boards selected as needed, by a single examiner? How should they be selected?

5. Should examination prior to employment be made compulsory so as to establish freedom from disabling lung disease, this to include X-ray examination?

6. Should examination on leaving employment be made compulsory so as to determine whether disabling lung disease has developed?

7. Should the tests of silica percentages in the ores and soil of Arizona made in the past, the statements regarding dust control and dust concentrations as recorded by the dust control engineers of the large mining properties of Arizona, be accepted and used as presumptive evidence for or against the development of silicosis? Or should there be survey of some disinterested agency, such as the United States Public Health Service, who made the survey in Utah, to determine just what the hazards from silicosis are in the mines of Arizona?

Your Committee on Industrial Health and Subcommittee on Silicosis submits this report of conclusions, problems and questions as a preliminary statement only.

Respectfully,

COMMITTEE ON INDUSTRIAL HEALTH

O. E. Utzinger, Chairman
J. P. Austin
Kenneth E. Herbst

SUBCOMMITTEE ON SILICOSIS

W. Warner Watkins, Chairman
John W. Flinn
William M. Schultz
Frank T. Hogeland
Fred G. Holmes
Louis B. Baldwin
Thomas A. Hartgraves
U. L. Minear

NEW MEXICO MEDICAL SOCIETY

(L. B. Cohenour, Associate Editor)

VITAL STATISTICS IN NEW MEXICO

(Exclusive of Indians)

Section II

Section II of Vital Statistics in New Mexico continues data for the counties of the state. These data — population, births and deaths— are exclusive of Indians. The figures for 1941 are preliminary data. The data are divided into three sections: First, numbers and rates for livebirths, total deaths, infant deaths and stillbirths; second, attendant at birth and death; third, causes of infant deaths.

Births and Deaths

During the thirteen years, 1929-1941, included in this review, the population of New Mexico increased about thirty percent. Livebirths increased in actual numbers though not so rapidly as the population so the livebirth rate had a slight decrease. The total deaths decreased eleven percent which with the increasing population, meant a rapidly decreasing death rate. The infant deaths also decreased and the infant death rate, based on an increasing number of livebirths, decreased one-third.

The number of stillbirths was slightly higher the last few years, but the stillbirth rate, based on larger number of livebirths, was slightly lower.

Four counties, Colfax, Harding, Hidalgo and Union, had decreases in population from 1930 to 1940, and four, Bernalillo, Eddy, Lea and Santa Fe counties, had increases in population of more than fifty percent, according to the Bureau of the Census. In 1940, four counties, Catron, DeBaca, Harding and Hidalgo, each had a population of less than 5,000; eight counties, Guadalupe, Lincoln, Luna, Otero, Sandoval, San Juan, Sierra and Union, each had a population between 5,000 and 10,000. In 1930, Union county had more than 10,000 population, but Lea, Socorro and Torrance had less than 10,000 each. Statistics for the counties with less than 10,000 population should be read cautiously as external factors such as chance may be the cause of seeming increases or decreases.

The infant death rate for the state decreased one-third from 1929 to 1941—if the final figures for 1941 are not raised—from 140.2 per 1,000 livebirths to 93.7. In 1929, eleven counties had infant death rates above 150.0, one being 212.4. In 1941, only three counties were over 150.0, with the highest 189.2. As only eleven counties averaged more than 400 livebirths per year, infant death rates for the counties should be regarded merely as indications of trends. However, if the infant death rate was consistently lower (or consistently higher) in the later years, it might be considered somewhat significant. For example, Socorro with 175.8, 195.7 and 145.2 contrasted with 130.3, 115.2 and 130.3, might well have an actual decrease; and Harding with 81.4, 55.6 and 80.6 contrasted with 145.5, 90.9 and 163.3 might have a real increase.

Care at Birth and Death

From 1933 to 1941 there was an increase in the care of babies by doctors* both at birth and at death. A larger percentage of babies had medical* care when they were born than when they died. During this nine years there was a greater improvement in the care of babies at death than at birth, the percentage of medical attendance at death increasing 30.0% and at birth 23.3%.

In three counties, Curry, Lea and Luna, more than 90.0% of the babies had medical attention both at birth and at death. In five counties, Guadalupe, Mora, Sandoval, San Miguel and Taos, less than one third of the babies were attended by doctors at both birth and death. In Rio Arriba, Torrance and Valencia counties, more than a third of the babies had a doctor's care at birth but not at death.

The percentage of total deaths with medical attendance increased 9.6% from 1933 to 1941. In Chaves and Curry counties more than 90.0% of the persons dying were cared for by doctors during these nine years, while in Mora and Sandoval counties less than a third had a doctor's care.

Causes of Infant Death

In New Mexico 45.6% of the infant deaths were from unknown causes in 1929, and 33.6% in 1941. This means that the deaths from known causes give a most incomplete picture of the entire situation. As the deaths from unknown causes decrease, the proportion of known causes is increased, so that an increase in any known cause may mean that more cases were diagnosed and not that there was an actual increase.

The percentage of infant deaths from unknown causes varied greatly in the counties during this thirteen-year period, from 82.4% in Mora county to 2.5% in Lea county. Four counties, Lea, Chaves, Luna and McKinley, had more than 90.0% of the infant deaths from known causes. Ten counties, Catron, Guadalupe, Mora, Rio Arriba, Sandoval, San Miguel, Socorro, Taos, Torrance and Valencia, had less than half of the infant deaths from known causes.

—N. M. Health Off.

*Note: "Doctor" and "medical" as used in this paper include medical and osteopathic physicians.

MISCELLANY

PROBLEMS OF DOCTORS

Before we get well into our second year of war, the problem of allocating medical service between the armed forces and the civilian population may become as pressing as that of distributing man power between the armed services, the munitions plants and the farms. Physicians, in uniform and out of it, appeared before the Senate subcommittee of education and labor

only last week to insist that something be done to insure an equitable allocation of doctors between the Army and the citizens.

Dr. Gilbert Osincup, president of the Florida State Medical Association, also a Lieutenant Colonel, told the committee that a reduction of doctors in the Army and Navy by 30 per cent is not only desirable, but inevitable. On a recent tour of camps, this witness had discovered doctors who were going haywire because they had so little to do. While these were marking time, a boom town in Florida with its 5,000 citizens was without a physician. An earlier witness had testified that the United States Army now has seven doctors to every thousand personnel, while the British army ratio is three to the thousand.

The ratio of seven to the thousand was not deemed excessive in combat zones, but these witnesses held that it is excessive in the camps where soldiers in training are quartered. To relieve this situation, and at the same time make certain an adequate supply of doctors for the soldiers and sailors, a part-time system for doctors in the armed services was suggested. This would consist of an indoctrination course for doctors in military technique for six weeks or two months, after which they would be allowed to return to private practice until needed.

This problem will cause discussion and may prompt action in the new Congress that convenes in January. Action that will insure ordered allocation of doctors will be desirable. No decision on reduction of the number of doctors in the armed service should be reached, of course, until it has been determined what the need will be when our Army has been recruited to the maximum strength set by our military leaders. The induction of the teen-agers who will be in the training camps some time in the new year will increase the need for doctors. Noncombatants whose sons and brothers are in camps and battle zones are willing to bear their ills and rely on home doctoring in order that these boys may have the best of medical attention. But civilian health is of vital importance to the war effort, and if there really are too many doctors in the service some readjustment should be made. —*Dallas Morning News*

HOW LONG SHOULD A MAN WORK?

Somewhere there's a happy medium in the production period. If men work too long, they fatigue; and each task takes longer and longer until it's a losing battle. This, of course, does not even consider the poorer quality of work, the increased tendency toward accident or disease, and the steady rise in inefficiency.

On the other hand, if men do not work long enough, even though they do work efficiently, they can't turn out the maximum number of units. There's man-waste there—and again a losing battle. Somewhere between the two is the happy medium—the golden period where workers produce most without harming themselves or their product.

Now where is this period, important at any time in the smooth functioning of an industry, but especially important when a country is at war? A committee representing the War and Navy Departments, the Maritime Commission, the Public Health Service, the War Manpower Commission, the War Production Board, and the Commerce and Labor Departments studied the problem and here are its findings:

1. There should be a weekly day of rest. The Biblical injunction of one day's rest in seven seems to hold up after five thousand years. The seven-day work week for individuals is injurious to health, production, and morale. It slows down production because of the cumulative effects of fatigue when not broken by rest and relaxation. In fact, the workers take time off themselves. Too continuous work leads to increased absenteeism. Only in emergencies, and then for a limited time, should workers or supervisors (or doctors) forego their weekly day of rest.

2. There should be at least a thirty-minute meal period in midshift. Those working with toxic substances should be given sufficient time to cleanse their hands thoroughly before eating. (physcians please note.) Also, there should be adequate food. Coffee and doughnuts for breakfast and a "coke" for lunch are not enough for a man or woman doing work.

3. The work day should be eight hours long, and the week, six full days. Less than this makes for inadequate production. More than this, in time, results in impairing the health and efficiency of the workers and in decreasing the flow of production. Extra hours add little to output because the quality of work deteriorates not only during the extra hours

but also during the regular working hours; absenteeism rises sharply and accidents and illness increase.

4. There should be vacations completely away from the job. These vacations should be so staggered as not to delay production and the period should be so balanced as to produce maximum benefit to the worker without too high a cost in productive hours lost.

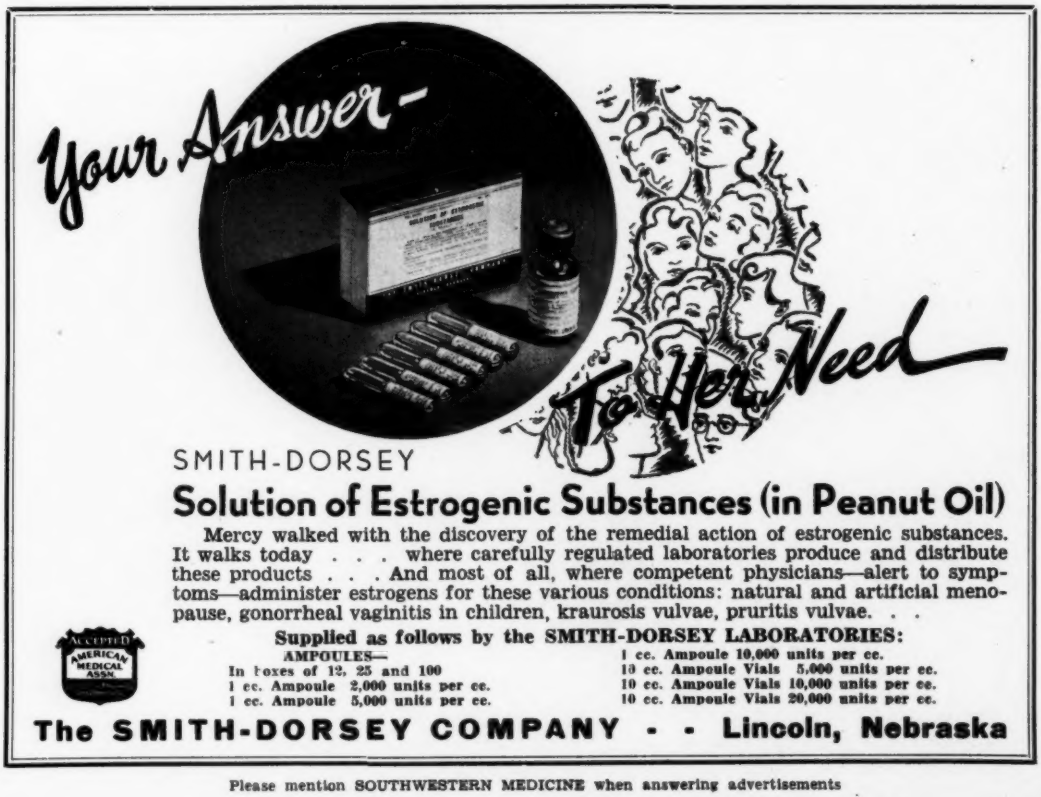
Those are the recommendations, Doctor. How do they apply to your own practice and habits?

—*Pittsburgh Medical Bulletin*

PROFESSIONAL USE OF NARCOTICS

New regulations have recently been issued jointly by the U. S. Commissioner of Narcotics and the Commissioner of Internal Revenue outlining the conditions under which officers of the Medical Corps of the Army and Navy may prescribe narcotic drugs. (*7 Federal Register* 10770, Dec. 23, 1942). These regulations provide that such officers, in the course of official medical treatment of Army and Navy personnel and members of their families entitled to receive such treatment, will be required to issue prescriptions for these patients which may call for narcotic drugs or preparations. Where the drug or preparation cannot be furnished from official stock, it must be obtained pursuant to the official prescription, from a drug store duly qualified by registration under the Harrison Narcotic Act to fill narcotic prescriptions. Such prescriptions, issued in the course of official professional practice only, and prepared on official blanks or stationery, such as printed forms of an Army or Navy hospital or dispensary, and otherwise meeting the requirements of narcotic regulations relating to prescriptions, may be filled by a duly registered druggist although they do not bear a registry number of the issuing practitioner. These prescriptions, however, must bear the signature, title, corps and serial or jacket number of the issuing medical officer and must be filed with and retained for the same period as narcotic prescriptions issued by regularly registered practitioners and filled by the druggist.

The foregoing procedure will not apply to prescriptions written by an Army or Navy medical officer in the treatment of a private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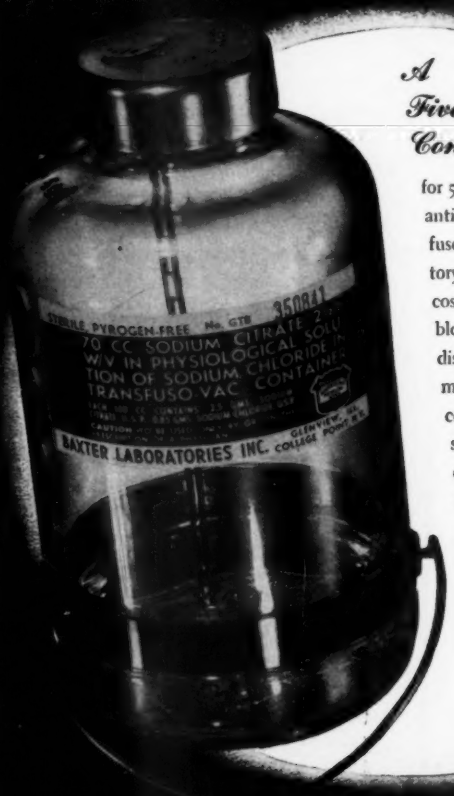

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patient, that is, a patient not entitled to receive medical treatment from the physician in the latter's capacity as a service medical officer. In prescribing and dispensing narcotic drugs to such private patients, the medical officer is subject to all the requirments of the Harrison Narcotic Act, including registration and payment of taxes, as are imposed on other physicians conducting private medical practice.

—*J. A. M. A.*

SUMMARY OF DIETARY SUGGESTIONS FOR THE OLD

1. Elderly people should start the day with a good breakfast. It should include some substantial protein, and whatever else depends on body weight and activity. Protein adequacy must be maintained at all ages.

2. As effort lessens and sedentary life supervenes, weight rise or fall should dictate the proportion of carbohydrate taken, and as much of this as posible should be from whole grain. While bran is objectionable cracked wheat products are not. Enriching flour may be a good expedient but the objection to dark breads should be lived down. Potato is the next best starch.

3. For the obese, vegetables and fruits should act as the "fillers" and provide appetite and zest for eating by meticulous preparation and serving.

4. The elderly should eat fat sparingly, even as the middle aged should use it cautiously. The high cholesterol sources (egg yolk, cream and animal fats) should probably be curtailed wherever body build, family history and other indications portend atherosclerosis. It is the one decisive indication for dietary restriction after full stature has been attained. The danger of high blood cholesterol is not universal.

5. Tea, coffee and alcohol are useful stimulants. The abuse of alcohol places it for some people in the category of both refined carbohydrate and animal source fat. As a vasodilator it inspires as well as flushes the aged. One cannot say as much for tobacco. It soothes and cuts off circulation. The quiet postprandial puff is rapidly becoming a continuous process. Tobacco is safer after 60 than before, because age has by that time made the blood vessels less elastic and labile.

6. Food and water (hot drink) taken at regular intervals revive the old. Food becomes the

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35. No. 11, 590-592.

best sleep producer even though early wakefulness follows. Fruit juices add the needed vitamin content.

7. Hunger lessens as age advances. Foods useless calorically (condiments, broth, relishes) have a place. The teeth, gastric acidity, probably absortive powers, vitamin storage—all begin to fail with age. We are able to compensate for these losses with vitamins, iron, calcium, hydrochloric acid and a balanced diet. The mouth becomes the nutritional barometer of health. —*J.A.M.A.*

HEAD INJURIES

1. Treat Cerebral Shock First.
2. Avoid Adding Insult to Injury.
3. Chart Course Hourly—Live with Patient.
4. Blood Transfusion for Persistent Shock or Severe Associated Injuries.
5. Oxygen Early for Persistent Unconsciousness—Cerebral Anoxia—Threatened Respiratory Failure or Associated Chest Injuries.
6. Postural Drainage or Aspiration.
7. Adequate Dehydration—Spinal Drainage—Operation, Each, When and If Indicated by Signs and Symptoms.
8. Avoid Overdehydration—Do Spinal Puncture Early When Indicated—Drain Adequate Amount of Fluid. Early Operation Seldom Indicated.
9. Maintain Nutrition—Feed by Stomach Tube if Necessary.
10. Avoid Oversedation—Seldom if Ever Use Morphine.
11. Consider the Patient—Not the Family or the Surgeon's Convenience.

—*J. Ind. St. Med. Asso.*

SHOCK

1. Control of hemorrhage.
2. Adequate morphine (except in cerebral shock).
3. Correction of dehydration.
4. Splinting of fractures.
5. Pressure on crushed legs.
6. Head down position.
7. Vasoconstrictor drugs.
8. High concentrations of oxygen.
9. Conservation of body heat.
10. Intravenous saline and glucose.
11. Whole bood pasma, serum, and concentrated abumin. —*J. Ind. St. Med. Asso.*

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BOOK NOTES

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Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1941, with the Comments That Have Appeared in The Journal. Chicago: American Medical Association, 1942, price, $1.

The Council on Pharmacy and Chemistry recenty issued the thirty-third edition of the Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association. This volume contains in compact form not only the reports of the Council which have been published in THE JOURNAL during the past year but also some additional reports which were not considered of sufficient importance to be published in THE JOURNAL. The reports may be divided into four classes: reports rejecting products as not being acceptable for inclusion in New and Nonofficial Remedies, reports omitting from New and Nonofficial Remedies products that have previously been accepted, reports on the nomenclature of various substances and reports in which the Council gives decisions of general interest or summarizes the latest scientific knowledge concerning certain topics. The last classification includes the largest number of reports. One article deals with the developments in bacteriophage therapy since the previous report of the Council in 1934. Other reports bring to the present day the status of such products as aluminum hydroxide preparations, antipneumococcic serums, cyclopropane, human blood plasma and serum, human convalescent poliomyelitis serum, human convalescent mumps serum and sulfadiazine. Such topics as ion transfer (iontophoresis), halogenated vegetable oils for bronchography and the problem of lipid pneumonia and the sympathomimetic amines as epinephrine substitutes are discussed. The nomenclature reports deal for the most part with the Council's adoption of nonpropietary designations for comparatively new products such as diethylstilbestrol, menadione and sulfadiazine. Explanations are given for the omission at this time of products which have previously been included in New and Nonofficial Remedies. In most cases the N. N. R. description is included in the report as a matter of rec-

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ord. The volume also includes the reports rejecting various products—which have either been submitted by the manufacturer or considered on the Council's own initiative—and which have been found not acceptable for inclusion in New and Nonofficial Remedies. Also incorporated is a brief summary of the decisions arrived at by the Council at its latest meeting.

New and Nonofficial Remedies, 1942 containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1942. Cloth. Price, postpaid, $1.50 Pp. 671—XCVII Chicago: American Medical Association, 1942.

An important feature of this new volume of New and Nonofficial Remedies is the radical rearrangement it has undergone. It is believed this will make the contents more accessible and therefore more valuable to the physician or other interested readers. Heretofore, the classification of products has been basically that of chemical relationship—the new arrangement is primarily according to therapeutic use, chemical classification being introduced by means of subheadings. The book fulfills its function of establishing chemical standards for new and nonofficial preparations which the Council has found to be useful or to give adequate promise of usefulness in the treatment or prevention of disease. It is a reliable guide to the most recent advances in therapeutics.

Among the newly accepted drugs are: Acetyl-Beta-Methyl-choline and the proprietary brand, Mecholyl Chloride, proposed for use by iontophoresis, orally and subcutaneously as a parasympathetic stimulant; Adrenal Cortex Extract for parenteral use in the treatment of Addison's disease or of adrenal insufficiency of other types as well as prophylactically in surgical procedures involving the adrenal cortex; Aluminum Hydroxide Gel with the proprietary brand, Creamalin, for oral use as an adjunct in the treatment of peptic (gastric and duodenal) ulcer; and Normal Human Serum and Normal Human Plasma.

Others worthy of mention are: Cyclopropane, another general anesthetic, now included in the U.S.P.; Amylcaine Hydrochloride, another proprietary local anesthetic and Pernoston Sodium, the sodium salt of the previously accepted proprietary barbital derivative, Pernoston.

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